

## **SPATIAL ANALYSIS OF GENDER INEQUALITY IN EMPOWERED ACTION GROUP STATES**

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### **Abstract**

Gender inequality is one of the worst disparities prevalent in our society affecting the largest number of people in comparison to others and thus it questions the existence of half of our population. It has its root in the patriarchal form of society which gives more emphasis to males where they try to dominate, oppress and exploit women. This study is on gender inequality in Empowered Action Group (EAG) states (Bihar, Chhattisgarh, Jharkhand, Madhya Pradesh, Orissa, Rajasthan, Uttar Pradesh and Uttarakhand) with the help of eight indicators to analyse the spatial analysis of gender inequality there. From the study it was found that Uttar Pradesh performed worst in term of gender equality while Chhattisgarh performed well. There are various factors that lead to this inequality in EAG states like inequality in demographic factors; education and employment factors and political participation and decision making factors as gender inequality is not because of any single factor, it is a result of multi-faceted factors.

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### **Keywords:**

Gender inequality;  
Sex ratio;  
Child sex ratio;  
Literacy gap;  
Work participation gap;  
Under-five mortality;  
Maternal mortality rate;  
Child marriage;  
Political participation.

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### **1. Introduction**

Gender inequality can be defined as a continuous discrimination and biasness against women in the male dominated society where females have been subjugated since time immemorial. It is one of the worst disparities prevalent in our society affecting the largest number of people in comparison to others and thus it questions the existence of half of our population.

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Gender inequalities have its root in the patriarchal form of society which gives more emphasis to males. According to sociologist Walby (1990), patriarchy can be defined as “a system of social structure and practices in which men dominate, oppress and exploit women”. It is one of the most important social issue the whole world is facing though the magnitude of this inequality is not same everywhere. It is rampant in least developed countries and less in developed. Women, in any timeline, have been discriminated in every sphere of life be it education, employment or health that have lead to their inferior status.

According to Spektor (2010), there are several documents that draw the attention of gender inequalities in the society focusing on biasness against women in the fields of education, employment, health services, nutrition etc. Gender inequality is a result of several interconnected spheres like family, education, economic and political discrimination (Harvey et al, 1990) which make women’s life inferior to men. Globally, India is one of the few countries in the world where women have to face discrimination and biasness both outside as well as inside the houses. The paper focuses to examine the gender inequality in eight Empowered Action Group (EAG) states (which are socio-economically less developed and way behind demographic transition) namely Bihar, Chhattisgarh, Jharkhand, Madhya Pradesh, Orissa, Rajasthan, Uttar Pradesh and Utrakhand with the help of eight selected indicators and to identify the state with high gender inequality among them.

## 2. Research Method

Eight indicators (sex ratio, child sex ratio, gender literacy gap, gender work participation gap, gender under-five mortality gap, maternal mortality rate, percentage of female marriage below 18 years and political participation) have been selected in the study and index has been developed for all the indicators in order to analyse comparative performance of every EAG states in every indicators and respective ranks have been given. A composite gender inequality index has been developed on the basis of all the eight indicators and finally ranks will be assigned to them that will refelect the comparative status of women in EAG states. The value of the individual indices will range between 0 to 1, where 0 indicates high gender inequality and 1 as low. The value of gender inequality index will also range between 0 to 1, where lower the value indicate high gender inequality while higher the value indicate low. Ranks will be assigned to all the states in both individual and composite on the basis of index values, where rank 1 indicate low gender inequality while rank 8 indicate high gender inequality. Mapping of gender inequality in the above mentioned indices with help of their ranks have been done with the help of ArcGIS.

Unity based normalization technique has been used to bring the values of different parameters into the range 0 to 1 in all the states and two sets of formulae have been used

For positive indicators (sex ratio, child sex ratio, political participation)

$$\frac{x - \min(x)}{\max(x) - \min(x)}$$

For negative indicators (gender literacy gap, gender work participation gap, under-five mortality gap)

$$\frac{\max(x) - x}{\max(x) - \min(x)}$$

Where max (x) and min (x) are the highest and lowest values the variable x can attain respectively.

## 3. Result and Analysis

Women in India, particularly in EAG states, face various kinds of gender discrimination and biasness which overall has led to their under development as compared to men. Under the Constitution of India, women are equal to men, but in reality are not so for they face discrimination, biasness and are ill-treated in almost all spheres of life. Thus it is important to assess the social structures and cultural norms that influence the role and status of women in the society. In this paper gender inequality has been shown using some selected. Secondly, composite index has also been calculated to analyze the role of above mentioned parameters in explaining gender inequality in EAG states and thirdly, the staes have been ranked accordingly.

### Sex-ratio

Sex-ratio, which is defined as number of females per thousand males, is one of the most significant social and demographic parameter to show the status and condition of women in the society. According to 2011 census data, four EAG states have sex ratio below national average (943). Among EAG states, sex ratio was highest in Chhattisgarh (991) while it was lowest in Uttar Pradesh. The fact is that the number females are under-represented in all the EAG states because of the outcome of partriarchal mindset, religious, cultural and traditional beliefs aided with modern sex selective abortions.

Low sex ratio is multifaceted and do not have one single reason behind it as many scholars viewed traditional mindset as major reason behind low sex ratio (Agnihotri 1995 and 2000 and Bhat 2000a and 2002b). Some scholars view stopping behaviour as important reason (McClelland 1979 and Griffith et al., 2000) while other view preference of boy child as reason behind it (Arnold et al., 2002). In India, dowry is seen as major reasons behind preference of boy child (Miller 1981 and Arnold et al., 1998) and torture of brides and their deaths because of dowry is very high in India and Uttar Pradesh and Bihar had highest numbers of dowry deaths in 2012, 2013 and 2014 (Ministry of Women and Child Development, 2015).

In order to ascertain the present situation, sex ratio index has been calculated for 2011, with values ranging from 0 to 1, with 0 indicating the state with the lowest sex ratio and 1 the highest. From fig. 1, it is clear that Uttar Pradesh had a value 0 and is ranked 8<sup>th</sup> while Chattisgarh with value 1 is ranked 1<sup>st</sup>.

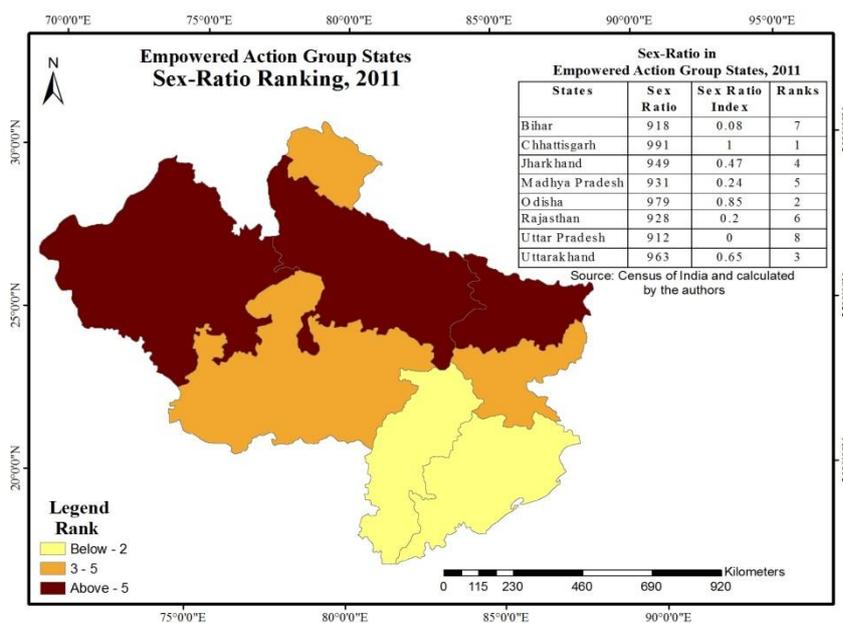


Figure 1

### Child Sex-Ratio

Child sex ratio, which is defined as the number of girl child per 1000 male child in 0-6 age group, is a social indicator which highlights the amount of love and respect we have for our daughters. Three EAG states have child sex-ratio below national average (918). Child sex ratio was lowest in Rajasthan (888) while it was highest in Chhattisgarh (969). The representation of daughters in comparison to sons is disturbing in all the states as in every states daughter's representation is less.

According to various literature reviews major reasons behind the low child sex-ratio are preference of boy child, easy access to pre-natal sex determination, small family size and nutritional inequality between sons and daughters (Goodkind 1999 and Dasgupta 2005). The imbalance in child sex ratio can be seen from two viewpoints namely pre- birth and post birth events. According to several scholars, the low child sex ratio is because of pre-birth events which include sex selective abortions that are widely available and affordable despite government regulations (Jha et al., 2011). According to Oster (2009) and Chaudhari (2015), inequality in terms of treatment of illness, vaccination, child care leads to lower number of daughters.

In order to ascertain the present situation, child sex-ratio index has been calculated for 2011, with values ranging from 0 to 1, with 0 indicating the state with the lowest child sex-ratio and 1 the highest. From fig. 2, it is clear that Rajasthan had a value 0 and is ranked 8<sup>th</sup> while Chhattisgarh with value 1 is ranked 1<sup>st</sup>.

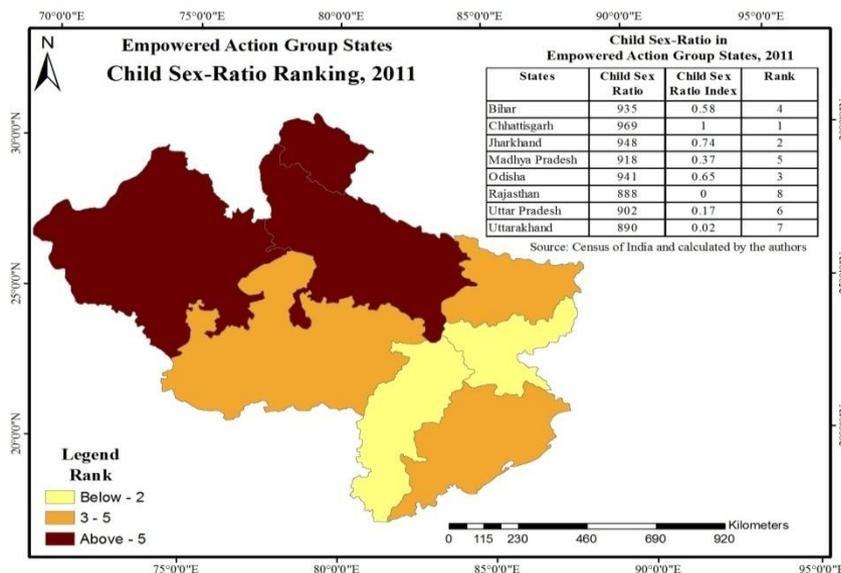


Figure 2

### Gender Literacy Gap

According to King and Hill (1993), education enriches the overall capacity and capability of women leading to their active economic and political participation protecting them from all forms of discrimination, disparity and biasness and resulting in increase in their social status and overall well-being of female child and mother. According to 2011 census, the gender literacy gap of all the EAG states was higher than the national average (16.68 points) with highest in Rajasthan (27.1 points) and lowest in Uttarakhand (17.4 points).

According to various scholar there are several reasons behind high literacy gap like education of parent, income, religion, family size, place of residence and infrastructure therein (Brown and Park 2002 and Hussain and Chatterjee 2009). Some scholars were of the view that parents prefer sons for they believe that they would be taken care by them in future and are thus, encouraged to invest more on them. The gender bias is all the more evident in parental investment, when the resources or income is limited, thereby leading to more dropouts of girls than boys in the family. According to Anderson (2007), another reason for not investing in the education of girl child is that, at the time of marriage they have to be given a huge dowry which is saved from not investing in girl's education. Sexual harassment and security of girls is also one of the major reasons behind low female literacy rate (Colclough et al., 2000)

In order to analyse the present situation, literacy gap index has been calculated for 2011, with values ranging from 0 to 1, with 0 indicating the state with the highest literacy gap and 1 the lowest. From fig. 3, it is clear that Rajasthan had a value 0 and is ranked 8<sup>th</sup> while Uttarakhand with value 1 is ranked 1<sup>st</sup>.

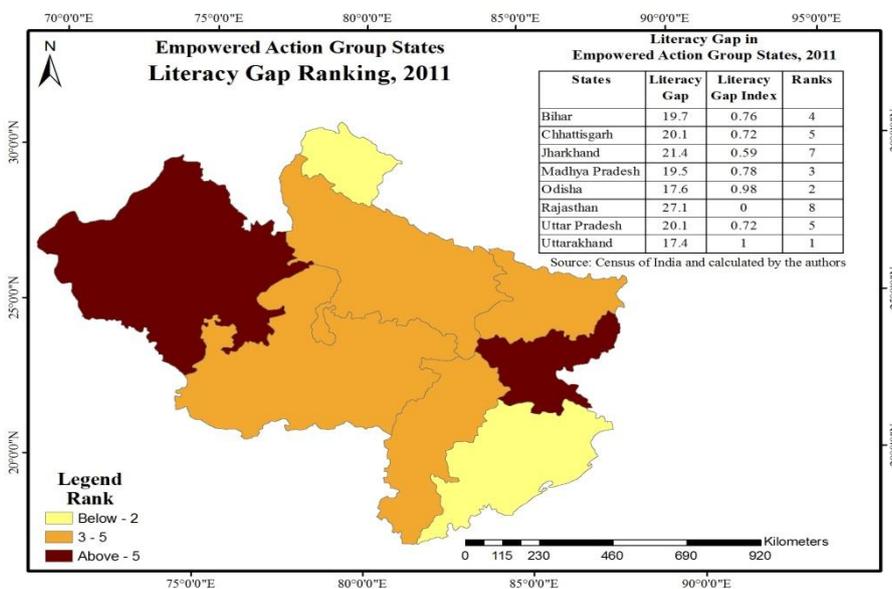


Figure 3

## Gender Gap in work participation

The presence of women in economic participation is very low, as compared to men, as they are mostly hidden behind the four walls of the houses in domestic duties and they get low wages or in many cases no wage for such participation which is influenced by socio-cultural factors namely educational background, urbanization, migration and in certain types of employment. The national average of gender gap in work participation gap was 25.5 points in 2011 and three of the EAG states have this gap more than the national average. The gender gap in work participation was highest in Uttar Pradesh (31 points) while it was lowest in Chhattisgarh (15.9 points).

Education has great impact on the work participation of women as educational facilities are mainly confined to males and women are deprived of it which leads to their low participation (Kumar, 2008). Child marriage also influences the economic participation of women as it results in early pregnancies followed by long recovery time along with long term physical, social, economic and psychological consequences (Koblinsky et al., 2012). It reduces economic returns due to lower educational attainment and increased household work which include care of parents, husband and children (Klasen and Pieters, 2012) and affects their employment activities and nature of employment too as illiteracy or lower education is one of the biggest barrier that restricts them from entering into formal paid sectors for employment (Grown et al., 2005) whereas increasing economic participation is associated with higher education (Mammen and Paxson, 2000). According to a study by Centre for Social Research (2017), because of many socio-cultural factors coupled with gender biasness in the society restrict women to work outside their homes. Even when women participate in economic activities, they have to face many problems including gender pay gap, unpaid work, sexual harassment, violence and torture and negligible maternity and child care benefits.

Work participation index has been calculated for 2011 to analyse the present scenario in EAG states, with values ranging between 0 to 1, where 0 indicates state with high gender gap in work participation while 1 the lowest. From fig. 4 it is clear that Uttar Pradesh with value 0 ranked 8<sup>th</sup> while Chhattisgarh with value 1 ranked 1<sup>st</sup>.

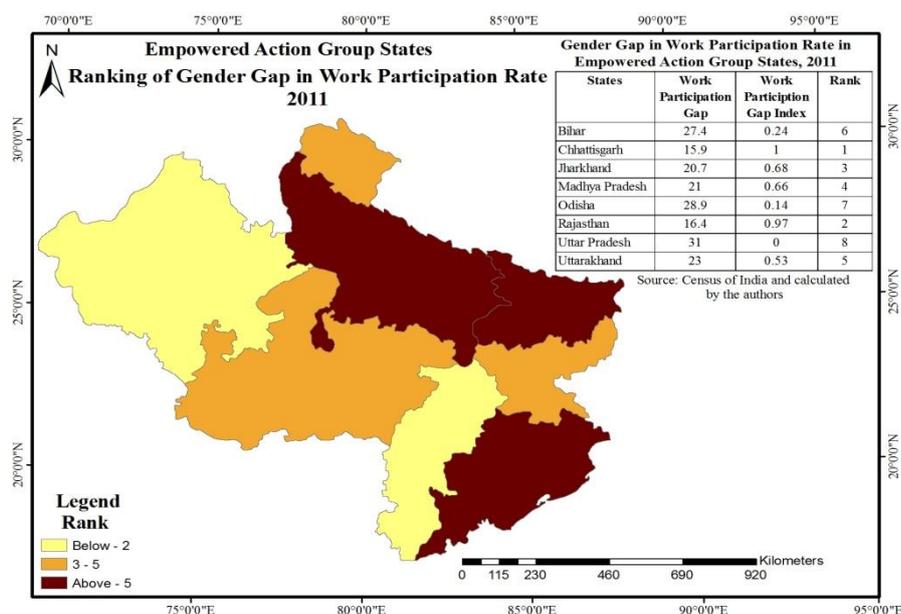
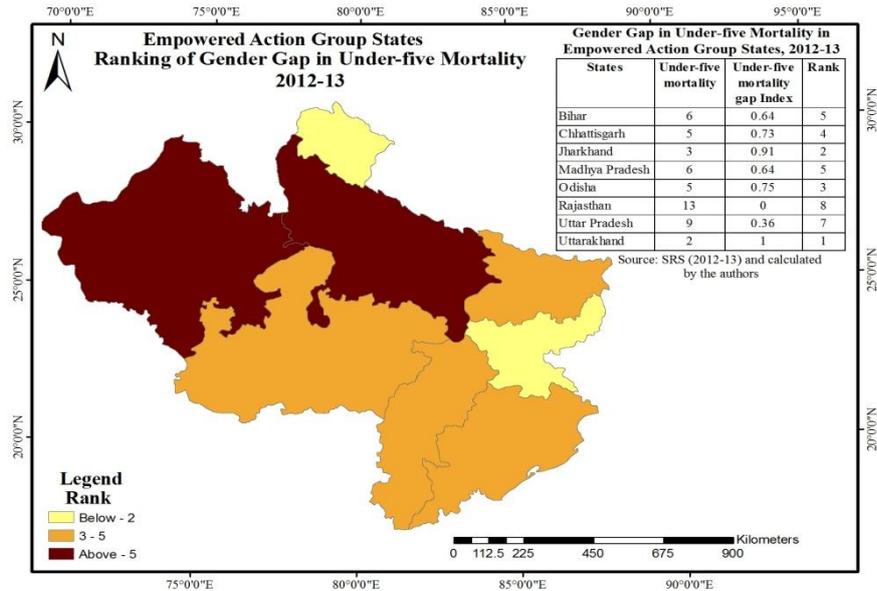


Figure 4

## Gender Gap in under-five Mortality

Although biologically, female child has more chances of survival than male but excess female infant mortality occurs when compared to male infant mortality rate (IMR), female infant mortality is higher (Hill and UpChurch, 1995 and Clark, 2000). According to Sample Registration System (SRS) (2012-13), female under-five mortality was more by 6 than male in India and in EAG states Rajasthan (13) had highest gender gap in under-five mortality while Uttarakhand (2) has lowest. In every EAG states female under-five mortality rate was more than male.

To analyse the present situation, under-five mortality index has been calculated having values ranging between 0 to 1, where 0 indicates high gap in female to male under-five mortality while 1 indicates the low gap. From fig. 5 it is clear Rajasthan with value 0, ranked 8<sup>th</sup> while Uttarakhand with 1 ranked 1<sup>st</sup>.

**Figure 5**

Most of the studies attributed this excess female mortality than male to gender inequality in childhood investment in food, nutrition and clothing (DasGupta 1987); medical care and treatment during illness (D'Souza and Chen 1980 and Das Gupta, 1987); and vaccinations (Arokiasamy 2004 and Oster, 2009b). These low investments on females have led to adverse consequences on their health leading to malnourishment, diseases and mortality. According to a study conducted by Jayachandran and Kuziembo (2011), lack of timely breastfeeding accounts for excess female mortality than male.

### Maternal Mortality Ratio (MMR)

According to World Health Organisation (2012), maternal mortality ratio can be defined as 'the death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the duration and site of the pregnancy, from any cause related to or aggravated by the pregnancy or its management but not from accidental or incidental causes'. The MMR of India was estimated at 178 maternal deaths per 100,000 live births and no EAG states have MMR below national average (Registrar General of India (RG1) 2013). The MMR in EAG states was highest in Uttar Pradesh and Uttarakhand (292) while it was lowest in Bihar and Jharkhand (219).

According to Mishra (2011), the high MMR is because of prolonged neglect and patriarchal behaviours, beliefs and attitudes of the people. Early marriage and pregnancy, illiteracy, poor accessibility to contraceptives use, poverty, lack of awareness regarding health care and nutrition and domestic violence. In EAG states, highest percentage of maternal death is because of haemorrhage (37 percent) followed by Sepsis (11 percent), abortion (9 percent), obstructed labor (5 percent), hypertensive disorder (4 percent) and 33 percent from other reasons (World Health Organisation 2012).

Maternal mortality index has been calculated on the basis of RGI (2013) to present situation in EAG states with values ranging from 0 to 1, where 0 indicates high maternal death while 1 indicates low maternal death and are accordingly ranked.

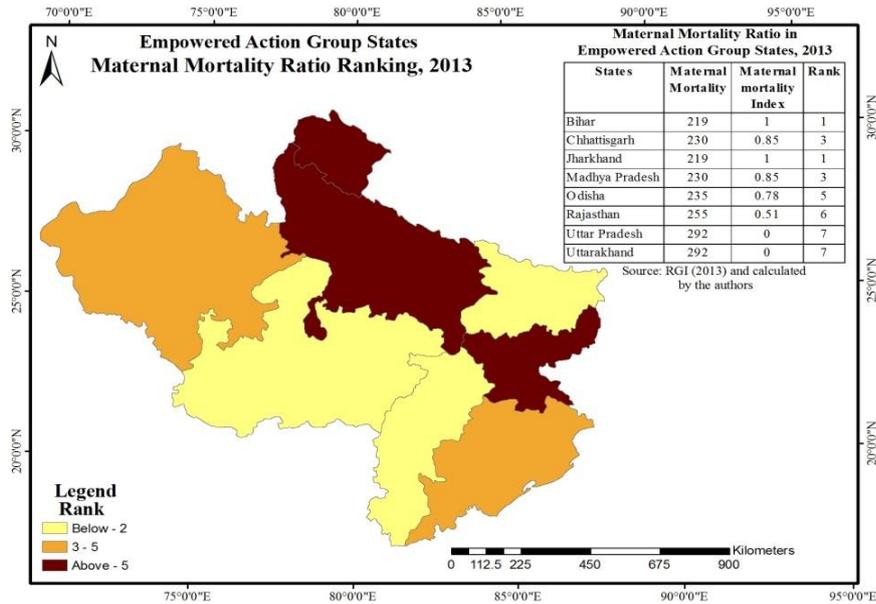


Figure 6

### Child marriage

Although child marriage (marriage of girls before 18 and boys before 21 years), is still a serious problem and is one of the worst kinds of human right violation, as it hampers the overall development of an individual, but girls are the real victims as they outnumber boys and hampers their education (Lee-Rife et al., 2012). Child marriage happens in many societies in the name of tradition, patriarchy, security or future of a girl child and does not give freedom to young girls to decide about their future regarding age of the marriage and whom to marry (Davie et al., 2013). According to National Family Health Survey-4 (NFHS-4) (2015-16), women aged 20-24 who are married before the age of 18 were 26.8 percent and among EAG states Bihar (39.1 percent) has the highest percent while Uttarakhand (13.9 percent) has the lowest.

Early marriages lead to issues related to physical, psychological and emotional development of women and also hinder their overall progress and well being (Dixon-Mueller 2008) and they also faced long term violence too (Santhya et al., 2010). According to Ahmed et al., (2013), young married girls suffer from depression and low self esteem and Clark (2004) and stated that they become victims of sexual abuse with high risks of sexually transmitted diseases. In most of the families poor as well as well to do families prefer early marriage of girls as more dowries has to be given to older girls (Anderson 2007). Early marriage leads to complication in pregnancies that result in maternal deaths, infants born under-weight and high infant mortality rate (Godha et al., 2013). According to International Civil Society Organization named Girls Not Brides, early marriages of girls lead to poverty, illiteracy and early dropouts from schools, inequality in economic participation and decision making, poor health, domestic violence and sexually transmitted diseases.

Child marriage index has been calculated on the basis of NFHS-4 (2015-16), having values ranging between 0 to 1, where 0 indicates high percentage of girls marrying before 18 years while 1 indicates low percentage. Bihar, with value 0 ranked 8<sup>th</sup> and Uttarakhand with value 1 ranked 1<sup>st</sup>.

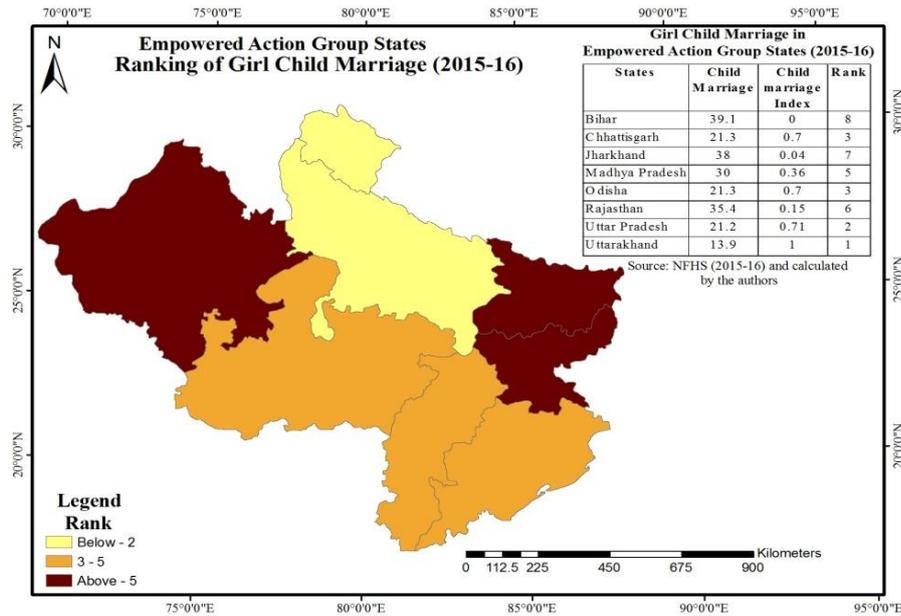


Figure 7

### Political participation

Political participation of women can be viewed as important indicators to measure the strength of women in the society which is crucial for their empowerment and decision making. Their active participation in politics can have an immense influence on the development of society in general and women in particular. According to 1995 Beijing Platform, there should be equality in the political participation process to achieve the fundamentals of women rights and it is imperative to know their interest in different fields and thus, they demanded economic and political empowerment of female and wanted active role of government to fight against inequality. The presence of women in the decision making process in governmental bodies not only enhances their social, cultural, economic and political status, but also empowers and strengthens the democratic bodies (Bunch and Fried 1996). According to last assembly elections in EAG states, the percentage of women Member of Legislative assembly (MLA) was highest in Rajasthan (14 percent) while it was lowest in Uttarakhand (7.14 percent).

According to some scholars female all over the India are the victim of five P's namely patriarchy, poverty, productivity inadequacy, promotional insufficiency and powerlessness. Women in India lack power as they are not well represented in political arena as member of state assembly that would otherwise had made them active and powerful participant in public sphere. The traditional mindset of society makes politics only a male affair and discriminate female. In India and particularly in EAG states where poverty is widespread and in this situation women are totally dependent on men and there is clear division of work in the family wherein women are given the responsibility of nurturing and taking care of children and husband's parent while men are active participants in public and political life and restrict female movement out. Political participation is the result of historical, social and economic factors (Zenab 1990), and in all three, women in EAG states are the victim and that led to their poor political participation.

Political participation index has been calculated on the basis of last assembly elections in all the EAG states, having values ranging between 0 to 1, where 0 indicates low female political participation while 1 the highest. From fig. 8 it is clear, Uttarakhand with value 0 ranked 8<sup>th</sup> and Rajasthan with value 1 ranked 1<sup>st</sup>.

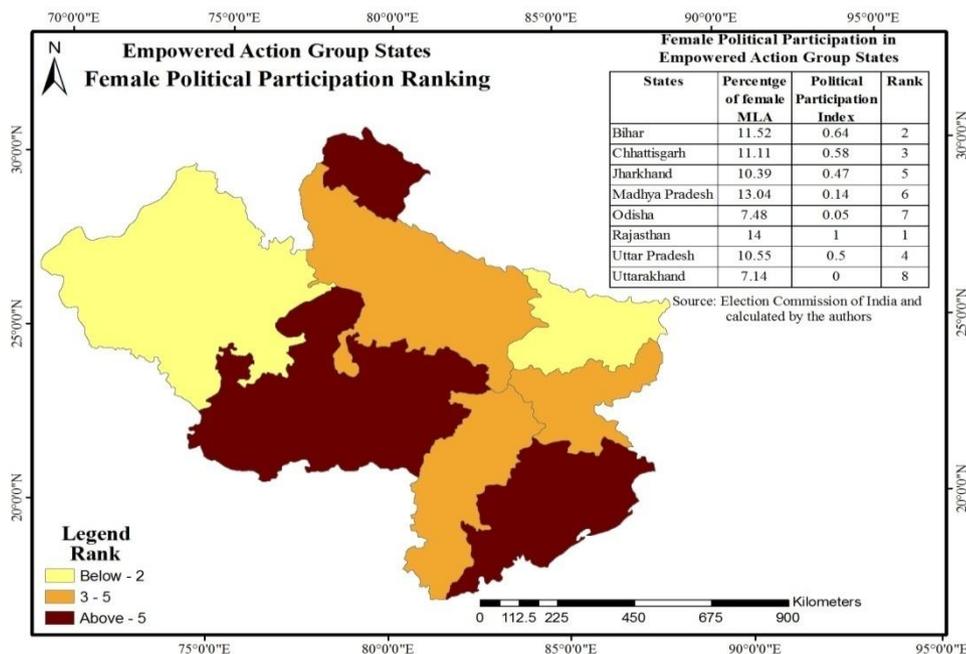


Figure 8

**Gender Inequality Index**

On the basis of above eight indicators, gender inequality index has been calculated to analyse the situation in eight empowered action states and it was found that gender inequality existed in all the states, though its magnitude varied from one to another. Gender inequality was very high in Uttar Pradesh which ranked 8<sup>th</sup> while it is less in Chhattisgarh which ranked 1<sup>st</sup>.

EAG STATES	S* Index	C* Index	L* Index	W* Index	U* Index	M* Index	CM* Index	P* Index	G* Index	Ranks
Bihar	0.08	0.58	0.76	0.24	0.64	1	0	0.64	0.49	6
Chhattisgarh	1	1	0.72	1	0.73	0.85	0.7	0.58	0.82	1
Jharkhand	0.47	0.74	0.59	0.68	0.91	1	0.04	0.47	0.61	2
Madhya Pradesh	0.24	0.37	0.78	0.66	0.64	0.85	0.36	0.14	0.51	5
Odisha	0.85	0.65	0.98	0.14	0.75	0.78	0.7	0.05	0.61	2
Rajasthan	0.2	0	0	0.97	0	0.51	0.15	1	0.35	7
Uttar Pradesh	0	0.17	0.72	0	0.36	0	0.71	0.5	0.31	8
Uttarakhand	0.65	0.02	1	0.53	1	0	1	0	0.53	4

S\*- Sex-Ratio, C\*-Child Sex-Ratio, L\*-Literacy Gap, W\*- Work Participation, U\*-Under-five Mortality, M\*-Maternal Mortality, CM\*-Child Marriage, P\*-Political Participation, G\*-Gender Inequality Index

Source: Calculated by the authors

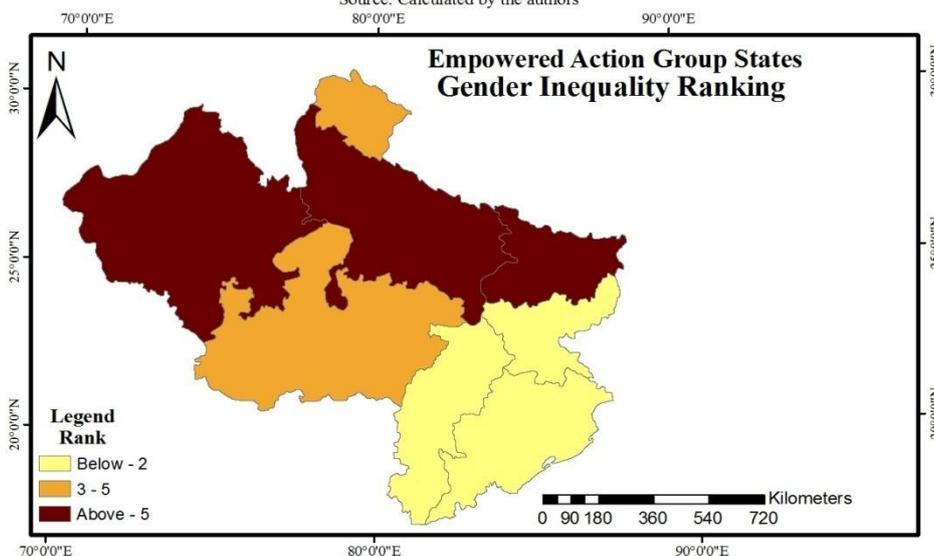


Figure 9

#### 4. Conclusion

In this study gender inequality has been analysed in various fronts such as demographic, education and employment, political participation and decision making and this study is significant as it scrutinizes the problems faced by women in various spheres in Empowered Action Group States. On the basis of spatial analysis of gender inequality in eight EAG states (Bihar, Chhattisgarh, Jharkhand, Madhya Pradesh, Orissa, Rajasthan, Uttar Pradesh and Uttarakhand) with the help of eight indicators (sex-ratio, child sex-ratio, gender gap in literacy, gender gap in work participation, gender gap in under-five mortality, maternal mortality ratio, child marriage and political participation), it was found gender inequality existed in all the EAG states and only the magnitude varied from one to another. Gender inequality persisted despite the fact that there is significant progress in social, economic and cultural status of human being. Chhattisgarh was best performing state while Uttar Pradesh performed worst.

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